Meet Michigan's Clean Corporate Citizens





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www.michigan.gov/dea

Governor Jennifer M. Granholm Director Steven F. Chester This report offers highlights on a number of Clean Corporate Citizen facilities.

For complete information on the Clean Corporate Citizen criteria and application process, please contact:

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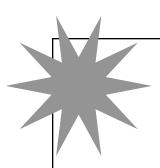
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CLEAN CORPORATE CITIZEN PROGRAM



To the Citizens of Michigan:

The 2002 edition of "Meet Michigan's Clean Corporate Citizens" contains 13 new additions to the growing number of elite environmental performers in Michigan. I am pleased to showcase the achievements of these establishments and welcome them to the Clean Corporate Citizen (C3) program. Established in 1996, the program has experienced a steady growth to 56 participants to date, making it one of the most successful and longest-running environmental innovation programs of its kind in the nation.

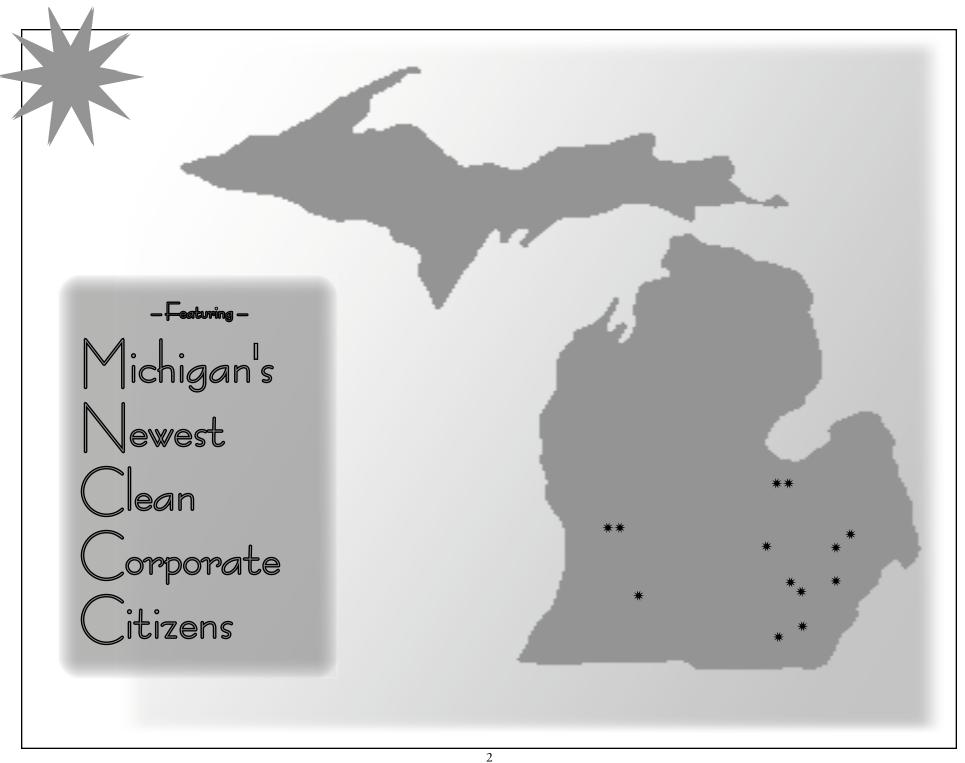
Environmental Management Systems (EMS) are a critical component of the C3 program and are recognized throughout the world as an effective tool that brings environmental factors into daily operations. The process of continually seeking improvement through chemical substitution, waste reduction, energy efficiency, expanded recycling, and other proactive pollution prevention measures is a dynamic component of an EMS and the C3 program.

Environmental stewardship is not an afterthought at each of these establishments; it has become an integral part of doing business. These dedicated, cross-functional teams have consistently gone beyond "doing what's required" to effect improvements resulting in significant reduction of their environmental footprints.

Congratulations to our newest Clean Corporate Citizens. Their achievements individually and collectively will result in long-lasting benefits to our shared environment.

CLEAN CORPORATE
PROGRAM

Steven E. Chester, Director





- * ADAC Automotive Trim 36th St. Plant, Grand Rapids
- * ARVCO Container Corporation, Kalamazoo
- Cascade Engineering Automotive Trim Solutions Group, Grand Rapids
- * Cyltec, L.L.C., Tecumseh
- * Dapco Industries, Dexter
- * Eaton Corporation Saginaw Plant, Saginaw
- * General Motors Orion Assembly Center, Orion Township

- * General Motors Pontiac Centerpoint Campus (PCC) Validation Center, Pontiac
- * General Motors Powertrain Livonia Engine Plant, Livonia
- * IMCO Recycling Specialty Alloys Saginaw Facility, Saginaw
- * Pfizer Global Research and Development Ann Arbor Laboratories, Ann Arbor
- * TRW Automotive, Fowlerville
- * Visteon Corporation Milan Plant, Milan

Michigan's Continuing Clean Corporate Citizens

(Featured in September 2000 and December 2001 reports)

Baker Furniture, Holland

Collins & Aikman - Westland Plant, Westland

Consumers Energy – JR Whiting Plant, Erie

Consumers Energy – Parnall Road Office Complex, Jackson

DaimlerChrysler Sterling Heights Assembly Plant, Sterling Heights

Dearborn Mid-West Conveyor, Taylor

Delphi-E Grand Rapids, Grand Rapids

Demmer Corporation, Delta Plant, Lansing

Denso Manufacturing Michigan, Inc., Battle Creek

Detroit Edison - Fermi 2, Newport

Dewitt Barrels, Incorporated, Grand Rapids

Dupont – Mt. Clemens, Mt. Clemens

Ford Motor Company – Automatic Transmission New Product Center, Livonia

Ford Motor Company – Engine Manufacturing Development Operations, Allen Park

Ford Motor Company - Romeo Engine Plant, Romeo

Ford Motor Company - Van Dyke Plant, Sterling Heights

General Motors Powertrain – Warren Transmission Plant, Warren Grayling Generating Station, Grayling Great Lakes Gas Transmission Company

(11 Locations Statewide)

Boyne Falls, Brevort, Crystal Falls, Frederic, Lake,

Naubinway, Otisville, Rapid River, St. Clair,

Sault Ste. Marie, Wakefield

Knoll, Incorporated - Grand Rapids Facility, Grand Rapids

March Coatings - Plants 1 and 2, Brighton

Mark IV Automotive, Big Rapids Facility, Big Rapids

NorthStar Print Group, Norway

Presque Isle Power Plant – WE Energies, Marquette

Smurfit-Stone Container Corporation – Ontonagon Mill, Ontonagon

TAC Manufacturing, Incorporated, Jackson

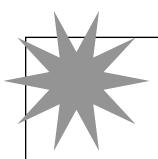
T.E.S. Filer City Station, Filer City

Unified Industries, Inc., Howell

Visteon Corporation - Chesterfield Plant, Chesterfield

Visteon Corporation - Sheldon Road Plant, Plymouth

Visteon Corporation - Utica Plant, Shelby Township



An Innovative Concept

Regulatory Relief for Environmental Commitment and Achievement

The Clean Corporate Citizen program is built on the concept that Michigan establishments that consistently demonstrate environmental stewardship and pollution prevention can be relied upon to carry out their environmental protection responsibilities with less department oversight. These establishments have earned the benefit of greater regulatory flexibility and public recognition for their efforts.

A CLEAN CORPORATE CITIZEN DEMONSTRATES:

Responsible Environmental Management

A C3 must have a strong and effective Environmental Management System (EMS) in place, based on the nature and scale of their operations. Establishments certified to ISO 14001, the international standard for environmental management systems, also meet the EMS criteria for C3 designation. Some of the required EMS elements include (see the Appendix for more information on EMS):

- Comprehensive identification of operations, activities, and processes that may potentially affect (negative or positive) the environment;
- Self-initiated environmental and system audits;
- ◆ Procedures for emergency response and follow-up, including a system to identify, correct, and avoid future incidents;
- ◆ A system for communicating environmental information to both employees and the public;
- ◆ An environmental policy that clearly states an establishment's commitment to environmental excellence and continual improvement; and
- Environmental training for employees.

Pollution Prevention

A C3 meets this criteria by:

- ◆ Adopting a pollution prevention (P2) policy and having an active establishment-wide P2 program;
- Regularly assessing operations to identify opportunities for waste reduction, reuse of materials, and responsible recycling;
- ◆ Setting P2 goals and working toward achievement of those goals;
- Sharing accomplishments and strategies; and
- Participating in information and technical exchange programs to share P2 success stories and encourage other establishments to chart P2 directions.

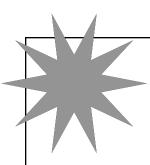
An establishment can also satisfy the P2 criteria by joining and being a member in good standing in one of DEQ's recognized P2 voluntary partnerships.

- Department of Defense/State of Michigan Pollution Prevention Alliance
- ◆ Metal Finishers Pollution Prevention Initiative
- ◆ Michigan Agricultural Pollution Prevention Program
- ◆ Michigan Business Pollution Prevention Partnership
- ◆ Michigan Great Printers Project
- ◆ Michigan Pulp and Paper Pollution Prevention Program
- ◆ Michigan Turfgrass Environmental Stewardship Program
- ◆ Small Chemical Manufacturers Pollution Prevention Initiative

Environmental Compliance

A C3 demonstrates consistent compliance with applicable permits and regulations, and has no outstanding unresolved environmental violations. A complete list of establishment-related permits, licenses, and binding agreements is required at the time of application. C3's must renew their designation annually and DEQ staff perform a verification of compliance with each renewal.





A Closer Look at Several Clean Corporate Citizens

Welcome to the section of this report that holds the most important information of all—specific details about several of Michigan's Clean Corporate Citizens. This section contains information about the specific operations, policies, and achievements of our Clean Corporate Citizens.

Some Key Terms:

C3: Clean Corporate Citizen

Environmental Management System (EMS): the part of an overall management system that addresses environmental concerns through the allocation of resources, assignment of responsibilities, and ongoing evaluation of practices, procedures, and processes to achieve sound environmental performance. (See Appendix for more information on EMS.)

ISO 14001: a standard adopted by the international organization for standardization to prescribe uniform requirements for the purpose of certification or registration of an environmental management system.

Pollution prevention (P2): eliminating or minimizing the initial generation of waste at the source or utilizing environmentally sound on-site and off-site reuse or recycling. Waste treatment, release, or disposal is not considered pollution prevention in the C3 program.



ADAC AUTOMOTIVE TRIM 36TH ST. PLANT, Grand Rapids

"This designation is the culmination of many hours of hard work on the part of our employees who take great pride in ADAC's Environmental Management System (EMS). Caring for the environment is one of our core values, one which is supported by ADAC's ownership and all ADAC employees."

— Jim Teets, President and Chief Operating Officer

The ADAC Automotive Trim, 36th St. Plant in Grand Rapids is the 51st Clean Corporate Citizen in Michigan.

ADAC is a full-service automotive supplier dedicated to the production of door handles and components, cowl vent grilles, exterior trim, and marker lighting for worldwide automakers. It designs and manufactures trim components for Ford Motor Company (and associated holdings), General Motors Corporation, DaimlerChrysler, Toyota Motor Manufacturing, Nissan Automotive, and Honda Motors.

ADAC's locations are certified to the ISO14001 EMS Standard, compliant to the QS-9000 Quality Standards, and also ISO-9001 certified. Founded in Grand Rapids, Michigan, in 1975, ADAC has locations in the United States, England, and Sweden, totaling over 750,000 square feet of manufacturing space and employing more than 1,200 people.

"ADAC employees display a strong work ethic and repeatedly demonstrate their commitment towards preventing pollution, complying with applicable regulations, and continual improvement of their day-to-day activities. Efforts towards achieving and sustaining the environmental objectives for our manufacturing activities and finished products have resulted in benefits for the environment and our employees, suppliers, customers and neighbors, as well as our bottom line," said Scott Plummer, Environmental, Health and Safety Manager.

ADAC continues progress on achieving and sustaining overall excellence in environmental performance. Environmental success stories at the ADAC Automotive Trim Grand Rapids plant include:

- Effective use of air pollution control equipment on plastic part surface coating operations to minimize emission of regulated air pollutants.
- ♦ Waste segregations to supplement cost effective recycling or disposal of hazardous and non-hazardous wastes.
- Reduction of potential impacts to storm water effluent and landfill volume by eliminating the use of an open top waste container stored outside and transferring the waste stream to a sheltered compactor.

Vital Statistics:

Clean Corporate Citizen since August 30, 2002

Operation: Automotive Parts

Address:

3801 36th Street Grand Rapids, Michigan 49512

Kent County



ADAC Automotive Trim 36th St. Plant, Grand Rapids, continued:

- Onsite filtering and reusing of hydraulic oil in Molding Presses.
- Recycling of cardboard, scrap plastic and metal, and various Universal Wastes such as fluorescent light bulbs, used batteries, and CRTs.
- Purchasing recycled materials as raw materials to either use in the manufacturing process or incorporate into our finished products.
- Working with our supply base on meeting our various customers' environmental requirements to design and produce product components in an environmentally conscious manner.
- Creating employee awareness to reduce energy consumption.
- Routine monitoring of compressed air equipment to minimize leaks and unnecessary run time.

ADAC looks forward to applying for C3 designation at three other manufacturing locations in Michigan during calendar year 2003.



ARVCO CONTAINER CORPORATION

"As president of ARVCO Container and Chairman of our international association (AICC), I am proud to have ARVCO recognized for its leadership in our industry's efforts to promote environmental stewardship and responsibility." — President Greg Arvanigian

ARVCO Container Corporation reports:

ARVCO has the distinction of being the first corrugator plant to be recognized under the Michigan Clean Corporate Citizen (C3) designation. ARVCO was also the first corrugator operation in the country to receive ISO 14001 Environmental Management System registration on March 13, 2002.

Founded in 1971 by George B. Arvanigian, ARVCO is a family-owned, independent corrugator and foam packaging manufacturer. Headquartered in Kalamazoo, Michigan, with a facility in Cadillac, ARVCO has combined manufacturing, office, and warehouse facilities in excess of 90,000 square feet, while employing more than 220 employees. ARVCO is a "full service" packaging manufacturer with design and testing facilities that supply to virtually every industry including furniture, automotive, food, electronics, plastics, hazardous materials, and health care.

The corrugated industry has always been concerned with the environmental impacts of its products and processes. New "earth friendly inks" used in packaging and corrugated fiberboard are more likely to be recycled than any other paper product. Today, more than 73 percent of all corrugated is recovered for recycling. In 1999 nearly 2.5 million tons of old corrugated was recovered for recycling in the U.S., a 22 percent increase in just three years.

Together with our C3 designation and our ISO 14001 program we are implementing procedures and programs in order to improve our environmental performance. These new programs have generated enthusiasm for improved quality and efficiencies of our products. Our goals are to reduce scrap, increase the usage of recycled paper, and decrease reliance on and consumption of resources. One of our most aggressive goals is to reduce our scrap materials at the Kalamazoo facility by 4 percent which could generate annual dollar savings of \$500,000 or more.

Vital Statistics:

Clean Corporate Citizen since July 16, 2002

Operation: Corrugated Packaging

Address:

845 Gibson Street Kalamazoo, Michigan 49001

Kalamazoo County







CLEAN CORPORATE CITIZEN PROGRAM

CASCADE ENGINEERING – Automotive Trim Solutions Group

"Our commitment to environmental concerns is a core element of the Cascade Engineering business approach and a key contributor to our success." — Mike Valz, Cascade Engineering President and Chief Operating Officer

Cascade Engineering reports:

Cascade Engineering's Automotive Trim Solutions (ATS) is a full-service solutions provider of automotive interior trim and components for the automakers and their Tier 1 suppliers. The ATS Group has a history of innovation, a strong focus on operational excellence, and a commitment to being environmentally conscientious.

Based in Grand Rapids, Michigan, ATS is part of the Cascade Family of Companies, which employs more than 1,200 people and reported 2001 revenues of \$230 million. Cascade Engineering is a world leader in injection molding of components and sub-systems for the automotive, office furniture, waste management, and consumer products industries.

Cascade Engineering is committed to the business principles of sustainability, which call on companies to focus on a triple-bottom line: financial, social, and environmental. As a company, Cascade Engineering has earned International Standards Organization 14001 certification, meeting the voluntary international standard for environmental management systems, and participates in the Michigan Business Pollution Prevention Partnership. The Company is also active in the use of green energy from both wind power and solar radiation.

As part of the Company's Pollution Prevention Week, Cascade Engineering employees instituted a paper-recycling program and were accepted into Michigan's Adopt-A-Highway Program. Cascade Engineering also hosted a presentation from the Department of Environment Quality on pollution prevention.

<u>Vital Statistics</u>:

Clean Corporate Citizen since July 23, 2002

Operation: Engineered Plastic Products

Address:

5141 36th Street 5050 33rd Street Grand Rapids, Michigan 49512

Kent County



The ATS Group earned Clean Corporate Citizen status for Cascade Engineering by demonstrating consistent environmental compliance, adopting active pollution prevention programs, and using an effective environmental management system. During 2002, ATS conducted an aggressive campaign to reduce the volume of scrap materials and contaminants transported to landfills, to reduce the potential for contaminants in water runoff presented in waste drains, and to reduce pollutants emitted to the air.

Cascade Engineering – Automotive Trim Solutions Group, continued:

Successful pollution prevention (P2) initiatives at its facilities during 2002 included:

- Increasing the amount of paper and cardboard recycled by 5 percent at both of its manufacturing plants.
- Establishing a recycle center and collection point in each of its plants.
- Training front-line leaders, die-setters, process technicians, team leaders, maintenance technicians, and material handlers on waste reduction and recycling.
- Reducing oil consumption by its presses by 15 percent.
- Establishing preventive measures for lacquers/thinners from being introduced to drains.
- Eliminating contaminants transported to landfill in spent propane containers.
- ◆ Improving operational controls for diesel fuel by better defining the refueling and clean-up process.
- Disposing of light bulbs to prevent bursting and potential contamination.

Each initiative was carefully planned, executed, documented, and evaluated as part of the Group's environmental management system.

As a Family of Companies, Cascade Engineering is committed to creating the highest value for our customers as well as striving to be a sustainable organization and a benchmark for leadership in business and in the community. We are pleased to be recognized as Michigan's 50th Clean Corporate Citizen.



CYLTEC, L.L.C.

"Cyltec is very pleased to be recognized as a Michigan Clean Corporate Citizen. We have strived to create a company culture that is committed to a pro-active approach to environmental stewardship — for the well being of our company, our employees, and our community." — Don Nowland, General Manager

Cyltec reports:

Cyltec was created in July 2000 as a joint venture between Eaton Corporation and UniBoring Company, Inc. to address the demand by the original equipment manufacturers (OEMs) to outsource cylinder head machining and assembly business. By combining the strengths of Eaton with their valve train design and manufacturing capabilities and UniBoring with their extensive cylinder head machining experience, Cyltec has quickly built a reputation as a technological leader in the cylinder head industry.

Cyltec, a minority business enterprise, now supplies over 200,000 cylinder head assemblies per year directly to OEM engine plants. Through our endeavors, we have leaned our manufacturing process and minimized concept-to-launch timeframes. Since the beginning, we have built on our reputation by continually providing high quality, competitively priced products to market in a timely manner.

Several process and equipment changes have been made since Cyltec's inception:

- Cyltec has replaced most of the fluorescent light fixtures throughout the area of the leased facility. The PCB ballasts were removed from the fixtures and were properly shipped for disposal. The fluorescent lights are being replaced with metal halide lights that are brighter and require less energy.
- Cyltec has installed a Henry Filter System that is connected to all the machines. This will create a closed loop system to recycle our coolant.
- Cyltec improved the scrap metal storage system.
- Cyltec has a reusable shipping crate system, which avoids creating any packing or shipping waste.
- Cyltec recycles all front office paper.
- Cyltec reduced the amount of waste batteries being sent to landfill. Cyltec monitors the spent batteries storage area to track volume of waste.
- Cyltec reduced the amount of soiled rags being sent to landfill by establishing a contract with a rag recycler for removing and recycling soiled rags.



Vital Statistics:

Clean Corporate Citizen since October 24, 2002

Operation: Cylinder Head Machining and Assembly

Address:

5550 Occidental Highway Tecumseh, Michigan 49286

Lenawee County





CLEAN CORPORATE CITIZEN PROGRAM

DAPCO INDUSTRIES

"We are very excited to become part of an elite group of Michigan companies that have achieved the Clean Corporate Citizen status." — Ron Tupper, President, Dapco Industries
"Our environmental commitment to the community and the State of Michigan is one which all of Dapco can be very proud." — Randy Layher, Facilities Manager

Dapco Industries reports:

Dapco Industries, of Dexter, Michigan, is a manufacturer of machine products for the small engine industry. Dapco has been in business since 1943 and their "small town company, worldwide quality" disposition is what makes them so unique. Although they are a small business with 160 employees, their size doesn't discourage them from reducing pollution because they've found that in the long run it will improve their operations. Dapco is one of the few small businesses in the Clean Corporate Citizen program. They recently received C3 designation and are already reaping the benefits of their Pollution Prevention (P2) programs, such as more space, more efficient operations, and reduced chemical costs.

Dapco achieved their C3 designation by continually incorporating P2 programs into their daily operations. In addition to environmental improvement, their goal was to keep operation costs down to maintain their competitive edge in a saturated market. Applied Science & Technology, Inc. (ASTI), is the environmental consultant who helped them achieve C3 designation.

In 1997, they replaced three old vapor degreasing units, which were used to clean manufactured parts, with one new unit. The new degreaser enabled them to reduce air emissions thereby qualifying to "opt out" of the Renewable Operating Permit (ROP), and to reduce the amount of hazardous waste generated. As a result, they experienced reduced operating and disposal costs, and improved conditions for their workers.

Dapco proactively looks beyond what is required, and voluntarily integrates on-site recycling into most of their processes. Recently, they designed and implemented a system to recycle oil from the machine turnings (metal chips). These turnings were coated with cutting oil used in 47 different screw machines. Now, after the used oil is extracted, the metal shavings are sent off-site for recycling, and the recovered oil is purified and reused on-site. Its estimated that 90+ percent of the cutting oil used at Dapco is now recycled. This equates to significant reductions of raw products consumed and decreased disposal of waste oil.

Vital Statistics:

Clean Corporate Citizen since September 23, 2002

Operation: Design and Manufacture of Small Engine Products

Address:

2500 Bishop Circle East Dexter, Michigan 48130

Washtenaw County







CLEAN CORPORATE CITIZEN PROGRAM

EATON CORPORATION – Saginaw Plant

"Eaton-Saginaw is committed to being an environmentally conscious corporate citizen within the City of Saginaw. Our governing environmental tenants of compliance with laws and regulations, pollution prevention, and continual improvement will ensure Eaton-Saginaw remains a positive influence in the community." — Lee Masrske, Factory Manager

Eaton-Saginaw has a rich history dating back to 1913, when Wilcox-McKim opened a machine shop producing small engines and automobile steering gear. A 1928 merger with Rich Steel Products resulted in the firm becoming one of the largest automobile manufacturers in the country. In 1930 Eaton Corporation acquired Wilcox-Rich and pioneered production of hydraulic lifters used in the 1932 Pierce Arrow automobile. World War II efforts brought growth and expansion to the production of lifters. Today the Saginaw facility employs 550 employees in four buildings. The daily production capacity exceeds 300,000 lifters.

The Saginaw plant earned International Standards Organization (ISO) 14001 certification in April 2000, and earned Clean Corporate Citizen designation on December 5, 2002. Their significant goals for 2002 included reduction of trash sent to the landfill by 10 tons, reduction of sand disposal by 400 tons, reduction of electrical usage in the foundry by 500,000 KWH and reduction of sludge disposal by 100 tons. In 2001 they voluntarily reduced trash sent to the landfill by 61 tons (28 percent), reduced sand disposal by 1,093 tons (23 percent) and began researching and purchasing new environmentally friendly and/or recycled-content products.

Management at Eaton-Saginaw has made a strong commitment and staff supports the implementation and improvement of the Environmental Management System. As a good neighbor, this facility participated in community outreach programs. One example is their can recycling program which purchases "Teddy Bears" for children in local hospitals. Employees at the plant are very concerned about the environment and their community. They continually look for ways they can help.

Vital Statistics:

Clean Corporate Citizen since December 5, 2002

Operation: Automotive Supplier

Address:

1000 Rust Street Saginaw, Michigan 48601

Saginaw County







CLEAN CORPORATE CITIZEN PROGRAM

GENERAL MOTORS – Orion Assembly Center

"We are proud to be a leader in changing the way we all think about our precious resources. Our concern for our surroundings has resulted in an unique approach toward a healthier environment. A couple of examples include using methane gas from a neighboring landfill to help heat and cool our facility, thus reducing pollutants released to the air, and working together with our UAW Local 5960 members to establish a very successful recycling program, further reducing the volume of waste disposed at the landfill. These initiatives, along with many others, demonstrate to our employees, neighbors, and community that we care about the environmental performance of this plant, and that we strive to continually improve."

— Jamie Hresko, Plant Manager

Orion Assembly Center reports:

The Orion Assembly Center takes great pride in the Buick and Pontiac car lines that we produce in our 3.6 million square foot assembly building located on 82 acres in northern Oakland County. GM Orion Assembly has also earned the International Standards Organization 14001 certification, meeting the voluntary international standard for environmental management systems. We were acknowledged with a U.S. Environmental Protection Agency "Project of the Year" award for innovative use of landfill gas for fuel, reducing the need for non-renewable resources by over 50 percent. Our ash recycling program has earned a "We Care" award from General Motors for material conservation and pollution prevention.

That program has saved over 26,000 tons of fly ash from being sent to a landfill by reusing it in potting soil, turning a waste into a safe and beneficial product.

Recycling programs include:

- Cardboard
- Gloves
- Robot Covers
- Fluorescent Light Bulbs
- Plastic Caps & Plugs
- Wood

- Paper
- Scrap Metal
- Solvent Rags
- Used Oil
- Printer Cartridges
- Aerosol Cans
- Fly Ash
- Batteries
- Cafeteria Grease
- Sealer Rags

Clean Corporate Citizen since September 3, 2002

Vital Statistics:

Operation: Car Assembly

Address:

4555 Giddings Road Orion Township, Michigan 48359

Oakland County



Orion Assembly's Commitment to the Community and the Environment:

- ◆ Employee Household Hazardous Waste Collection Day: collected and properly disposed of 935 gallons of used oil, 2,100 gallons of paint and solvents, and 235 old car batteries.
- ◆ UAW Local 5960 Adopt-a-Highway Clean-Up program along Lapeer Road in Oakland County.
- ◆ School environmental activities through Lake Orion Schools.
- River sampling and monitoring events in Lake Orion.
- School plant tours with emphasis on Orion's Landfill Gas usage and recycling.

General Motors - Orion Assembly Center, continued:

Orion's commitment to Waste Reduction and Recycling activities:

- 2002 recycled over 35 percent of all plant trash generated.
- ► ISO 14001 certified in February 2002.
- ◆ Implementation of landfill gas to fuel our powerhouse boilers.
- ♦ Since 1999, reduced our coal consumption by over 100,000 tons which eliminated over 3,000 tons of air pollutants.
- Since 1995, reduced energy consumption by 33 percent and water consumption by 43 percent.

Since 1997:

- ◆ 26,000 tons of fly ash (ash from burning coal) recycled/reused in potting soil.
- ◆ 1,400 tons of cardboard recycled.
- ◆ 1,100 tons of wood pallets recycled.
- ◆ 17,000 fluorescent bulbs recycled.
- 92 tons of cafeteria grease recycled.
- ◆ 360,000 pounds of plastic caps and plugs collected from car assembly process and sent for reuse/recycling.





GENERAL MOTORS PONTIAC CENTERPOINT CAMPUS (PCC) – Validation Center

"We believe it is important to be an environmentally conscious and responsible neighbor in the City of Pontiac and the State of Michigan, and we look forward to many more years of serving the community." — Bob Warner, Plant Manager

GM PCC - Validation Center reports:

The GM PCC-Validation Center located in Pontiac, Michigan, is the second General Motors plant and the 45th facility statewide to earn the C3 designation. The PCC-Validation Center is part of General Motors' Pre-Production Operations. The facility houses activities which identify, document, and resolve all quality and build issues during pre-production build events. GM's Pre-Production Operations (PPO) is part of GM's Manufacturing Engineering organization and supports Product Engineering.

The development and implementation of an environmental policy, a pollution prevention policy, and subsequent Environmental Management System has empowered the facility to focus on waste minimization and pollution prevention efforts.

The PCC-Validation Center's environmental policy demonstrates a high level of commitment to environmental management through the establishment of guiding principals. Our environmental policy addresses the following:

- Articulates the facility's mission and values.
- Emphasizes continuous improvement.
- Promotes pollution prevention.
- ◆ Acknowledges the importance of communication with the public.
- Emphasizes compliance with relevant environmental laws and regulations.
- Recognizes that every individual at PCC Validation can contribute to environmental improvement.

Our environmental policy is emphasized in our "Recipe" for a successful environmental program.

- ◆ Reduce, Recycle, Reuse
- ◆ Environmental Laws must be Obeyed
- Continual
- ♦ Improvement
- Prevent Pollution
- Everyone Must Contribute

Vital Statistics:

Clean Corporation Citizen since April 23, 2002

Operation: Automotive Research and Testing

Address:

200 South Boulevard West Pontiac, Michigan 48341-2984

Oakland County



General Motors Pontiac Centerpoint Campus (PCC) - Validation Center, continued:

The PCC-Validation Center also participates in an active pollution prevention program which is designed to eliminate or reduce waste at the point of generation, reuse of waste including the purchasing of recycled materials, and using environmentally sound on-site and off-site recycling options.

Our Pollution Prevention Policy states:

"As a responsible corporate citizen, PCC Validation is dedicated to protecting human health, natural resources and the global environment. This dedication reaches further than compliance with the law to encompass the integration of sound environmental principals into our business decisions."

Our ongoing pollution prevention program includes:

- Cardboard recycling
- Plastic recycling
- Office paper recycling
- Fluorescent tube recycling
- Battery recycling
- Pallet/wood recycling

- Hazardous waste minimization
- Used oil recycling
- Used oil filter recycling
- Used glycol recycling
- Scrap metal recycling
- Parts Washer solvent recycling

Some 2002 highlights include:

- ◆ A 10 percent increase in cardboard recycling.
- ◆ A 75 percent reduction in scrap wood volume going to the landfill.
- ◆ A 12.5 percent reduction in energy consumption (combination of electrical and natural gas).
- ♦ A 24.8 percent reduction in water consumption.
- Employee suggestions led to the installation of automatic Energy Saving Modes to the paint shop spray booths and cure ovens. These "Modes" in unison with other energy conservation programs helped our facility realize a \$785,000 reduction in natural gas and electrical costs.

The Validation Center is confident that through the development and integration of a sound EMS and participation in formalized pollution prevention programs such as the Michigan Business Pollution Prevention Partnership, we will continue to improve both the work environment and the community in which we live.



GENERAL MOTORS POWERTRAIN – Livonia Engine Plant

"The employees of the General Motors Powertrain Livonia Engine Plant are excited and very pleased to be designated by the State of Michigan Department of Environmental Quality as a Clean Corporate Citizen. The hard work and commitment of the GM Powertrain Livonia family is a true testament of our people's continuous support to protecting and maintaining a clean environment. Our overall goal is to provide a safe place of employment, while controlling our impact on the environment as we produce world-class quality engines."

— Larry Psaris, Plant Manager

GM Powertrain-Livonia Engine Plant reports:

Environmental Accomplishments: Direct facility contact is Chuck Toney 734-523-0374.

The Livonia Engine Plant has no underground storage tanks, polychlorinated biphenyls (PCBs), or asbestos-containing materials. The site has been ISO-14001 certified for an Environmental Management System and has been a member of the Michigan Business Pollution Prevention Partnership since 2001. It was designated as a Small Quantity Generator for Hazardous Waste in 1995.

The following are excerpts from the list of General Motors' Environmental Principles and the measures that this facility has taken to achieve each of these objectives:

- 1. "We are committed to actions to restore and preserve the environment."
 - All Products are reviewed for the impact they may have on the environment. Any item that could pose harm to the environment is substituted or managed to prevent any exposure.
- 2. "We are committed to reducing waste and pollutants, conserving resources, and recycling materials at every stage of the product life cycle."
 - Recycling all of the metal scrap, scrap equipment, and machining fluids.
- 3. "We will continue to participate actively in educating the public regarding environmental conservation."
 - Members of the staff at this facility participate in Rouge River cleanup and the Earth Force/GREEN education programs with local school children.
- 4. "We will continually assess the impact of our plants and products on the environment and the communities in which we live and operate with a goal of continuous improvement."
 - ◆ The efforts made to decrease the impact on our community are demonstrated by the following graphs.

Vital Statistics:

Clean Corporate Citizen since May 14, 2002

Operations: Automotive/Engines

Address:

12200 Middlebelt Road Livonia, Michigan 48150

Wayne County

GM Powertrain - Livonia Engine Plant, continued:

Recycling/Reuse Activities:

Direct facility contact is Chuck Toney 734-523-0374.

The Livonia Engine Plant produces the Northstar Cadillac engine. The majority of recycling at the site involves process coolants and scrap metal.

Resource Conservation:

Direct facility contact for waste is Chuck Toney 734-523-0374.

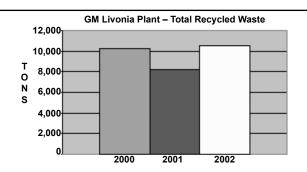
Direct facility contact for water is Bruce Sherwood 734-523-0373.

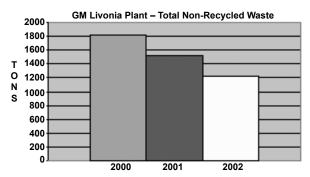
Waste and water reductions are continual improvement goals.

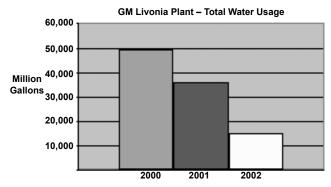
Energy Reduction Activities:

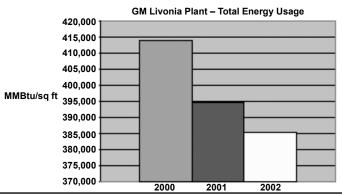
Direct facility contact is Bruce Sherwood 734-523-0373.

The site actively pursued total energy reductions. The following graph shows the dramatic improvement.









IMCO RECYCLING SPECIALTY ALLOYS – Saginaw Facility

"Aluminum recycling provides major environmental benefits and our Saginaw employees are honored that their full commitment to pollution prevention and waste reduction has been recognized by this Clean Corporate Citizen Award. We are pleased to work closely with the Department of Environmental Quality to realize our common goal of minimizing the impact of industrial activity on the environment."

— Gary Merritt, Plant Manager

IMCO Recycling Specialty Alloys reports:

The Saginaw facility, which began operation in late 2000, recycles aluminum scrap owned by General Motors Corporation and combines this with primary aluminum to produce alloy A356.2. The plant's output is delivered in molten form in refractory lined crucibles transported by specially designed trucks to General Motors Saginaw Metal Casting Operations. This delivery method lowers the customer's energy and capital expenses and improves their productivity by reducing melt loss. The General Motors plant uses alloy A356.2 to manufacture engine components.

Vital Statistics:

Clean Corporation Citizen since December 10, 2002

Operation: Production of Recycled Aluminum Alloys

Address:

2600 Nodular Drive Saginaw, Michigan 48601

Saginaw County

More aluminum is being used to manufacture autos and trucks because the metal's light weight and high strength allow producers to substitute it for traditional materials, thus maintaining the size and crashworthiness of vehicles while lowering fuel consumption and emissions.

In December 2001 the Saginaw facility received certification for QS 9000 (Quality) and ISO 14001 (Environmental). Both systems are now integrated into one in order to achieve maximum efficiency.

Saginaw was the first aluminum recycling facility to be built and operated under the EPA's new environmental regulation, NESHAP.

Here are some of the plant's recent environmental accomplishments.

- Installed state-of-the-art baghouse monitoring system that provides 24/7 assurance of air control compliance through alarms and computer generation of performance reports.
- Installed pollution filtering barriers (silt sacks) in all stormwater drains.
- Conducted joint study with GM-Saginaw and Consumers Energy to investigate alternative methods of reducing natural gas usage.

IMCO Recycling Specialty Alloys - Saginaw Facility, continued:

- ◆ Implemented recycling programs for:
 - Office papers
 - Aerosol cans
 - Batteries
 - Ink cartridges
 - Light bulbs
 - Scrap materials
- Conducted plant tour for elementary school children studying recycling and provided them with written materials describing the process and benefits of aluminum recycling.

In 2003 the Saginaw facility will lower its use of electricity by reducing the number of hours that its scrap crusher is operated, and it will study the feasibility of crushing scrap wood pallets and thus lower landfill volumes.

IMCO Recycling Specialty Alloys is a major supplier of aluminum to vehicle manufacturers and their component suppliers. In addition to the Saginaw facility, it operates a specialty alloys plant and an aluminum recycling facility in Coldwater, Michigan and a specialty alloys plant in Shelbyville, Tennessee. Almost all of these facilities have earned QS and ISO certifications for their quality management and environmental management systems.

IMCO Recycling Inc. (NYSE:IMR) is the world's largest recycler of aluminum and zinc. The company has 21 U.S. production plants and through joint ventures and 100 percent-owned facilities has operations in Brazil, Germany, Mexico, and Wales. IMCO Recycling's headquarters office is in Irving, Texas.



FURNACE

IMCO Recycling Specialty Alloys' Saginaw facility has a rated annual capacity of 160 million pounds. Production from this plant is used to meet the terms of a contract to supply General Motors Corporation with almost two billion pounds of aluminum alloys over a 13-year period.

MOLTEN METAL DELIVERY

Aluminum alloys produced by the Saginaw facility are delivered by specially designed trucks to General Motors' Saginaw Metal Casting Operations. This delivery method lowers the customer's energy and capital expenses and improves productivity by reducing melt loss.

PFIZER GLOBAL RESEARCH AND DEVELOPMENT – Ann Arbor Laboratories

"Designation as a Michigan Clean Corporate Citizen helps to validate our environmental ethic and programs and demonstrates to our community our commitment to be leaders in environmental stewardship and sustainability. Our program depends on the efforts of all our colleagues and contractors and relies on their daily practices to meet our program objectives and minimize our environmental footprint within our community." — Michael Lemon, Director, Environmental Affairs

Pfizer PGRD - Ann Arbor Laboratories reports:

Pfizer Global Research & Development (PGRD) is a pharmaceutical research and development facility located in Ann Arbor, Michigan. Pfizer's Ann Arbor campus covers 160 acres and includes over 2 million square feet of office and laboratory space.

PGRD developed and implemented an Environmental Management System in the mid-'90s and obtained ISO 14001 registration in January 1998. PGRD's EMS is governed by the facility's top management, and actively implemented by all colleagues throughout the Ann Arbor organization. Recent expansion and construction projects have all been conducted under the facility's stringent environmental project management guidance program.

PGRD is working actively to reduce its environmental footprint within the Ann Arbor community. Projects such as our wetland restoration, prairie grassland expansion, and Miller Creek Restoration Study are aimed at ensuring our environmental footprint is minimized. PGRD actively participates and supports local environmental initiatives such as Community Partners for Clean Streams, Waste-Knot Program, and the Southeast Michigan Sustainable Business Forum.

Annual environmental objectives and targets are established by an environmental committee comprised of volunteers from most departments within the organization and endorsed by the facility's top management. Objectives and Targets for 2003 include reductions in energy usage, water consumption, and green-space allocation and improvement on newly acquired properties.

Vital Statistics:

Clean Corporate Citizen since April 23, 2002

Operation: Pharmaceutical Research and Development

Address:

2800 Plymouth Road Ann Arbor, Michigan 48105

Washtenaw County



Pfizer's Ann Arbor Research and Development Campus





CLEAN CORPORATE CITIZEN PROGRAM

TRW AUTOMOTIVE – Fowlerville

"There has been a strong focus on environmental responsibility from the time we chose the site and broke ground in Fowlerville. It has been easy to keep that legacy alive because the people in the plant would not have it any other way. The C3 program is yet one more way we can demonstrate our commitment."

— TRW Automotive, April 2002

TRW - Fowlerville reports:

The TRW Automotive plant, located in Fowlerville, Michigan, is used for the design and manufacture of braking systems for the automotive industry. The plant, which opened in June 1994, is both QS 9000 and ISO 14001 certified.

By implementing an EMS, TRW-Fowlerville has been able to more fully involve our plant associates in responsible environmental management by raising their level of awareness and involving them in our management process. In addition to implementing an EMS, the plant takes part in third-party environmental compliance and management system audits.

Vital Statistics:

Clean Corporate Citizen since April 23, 2002

Operation: Automotive Supplier

Address:

500 East Van Riper Road Fowlerville, Michigan 48836

Livingston County

TRW-Fowlerville was originally a Large Quantity Generator of hazardous waste, but became a Small Quantity Generator in October 1996. Since that time we have continued to look for opportunities in pollution prevention and waste reduction.

Among our accomplishments are the following:

- Elimination of Iriditing (a coating process), which saved 60 cubic yards of landfill space (used for filter cake) per year. Additionally, this allowed us to eliminate the use of six hazardous chemicals.
- Chemical replacement: TRW-Fowlerville initially used a flammable solvent to clean our part transport pallets. This was replaced with an aqueous cleaner.
- Chemical reuse: Isopropyl alcohol and spindle oil are reused, resulting in a 50 percent reduction in raw material use and waste generation.
- Energy savings: We have made several changes that have resulted in significant energy savings. When the plant is closed, we use a 25 horsepower compressor in place of our larger 500 horsepower unit to supply air to our coolant system bubblers. Instead of using a chiller year-round, a dry cooler was installed so that outside air could be drawn into the plant during cold weather, resulting in significant energy savings. We have also initiated cycling our air conditioning compressors one at a time to avoid high electrical demand.
- ◆ Launderable/reusable absorbents: We implemented a reusable absorbent program. This has resulted in decreased use of landfill space and enhanced stormwater/groundwater protection.



- Raw material reduction: We have worked with our aluminum vendor to reduce waste portions on our raw aluminum castings. This resulted in decreased raw material usage. We also receive our own residual aluminum turnings back from an aluminum recycler.
- ◆ Educating industry: TRW-Fowlerville plant management has fostered environmental education by having the plant's environmental coordinator speak at environmental seminars to help promote our accomplishments and hopefully, show others that it is not always difficult, or even costly, to implement pollution prevention programs.

We are currently evaluating a wetlands/uplands enhancement project. This project would entail planting upland plant species to enhance nesting habitats and the creation of several ponds to assist in pre-treating stormwater prior to it entering our wetland.



VISTEON CORPORATION – Milan Plant

"One of Visteon's core business strategies and values is to provide products and processes that improve the environment. Practicing responsible corporate citizenship is a commitment we make to our customers, our employees, and the communities where we operate. Being recognized as a Clean Corporate Citizen in our community is not only an honor but a great tribute to the hard work and dedication of our employees and their commitment to improving the environment."

— Steve Hoynacki, Plant Manager

Visteon Corporation - Milan Plant reports:

The Milan Plant manufactures integrated systems, modules, and components for enhancing automotive powertrain performance, fuel economy, and emissions control. Milan is a plastics molding facility that produces per day approximately 9,700 fuel tanks, 2,000 blow molded bumper beams, and 7,500 injection molded and decorated bumpers. The facility occupies 1.3 million square feet and employs about 1,000. Since 1985, Milan has produced 30 million bumpers and 16 million fuel tanks.

The Milan Plant received its initial ISO 14001 registration in October 1998 for the environmental management system (EMS) through Lloyd's Register Quality Assurance (LRQA). The plant was re-certified in October 2001 by LRQA. LRQA also performs a surveillance audit semi-annually. The facility has also received the ISO 9001, QS 9000, and TS 16949 Quality Certifications.

Milan Plant personnel have made a commitment to preserving the environment through the implementation of their EMS to minimize the impact of the plant's operation on the environment. The managers of the individual departments and the Plant Manager comprise the plant operating committee, which has the responsibility for maintaining the Milan Plant EMS.

The facility has demonstrated a commitment to the environment and the surrounding community by engaging in several environmental programs and measures:

- ◆ The facility has eliminated all PCB transformers from the site.
- ◆ The facility continues to reduce the amount of Hazardous Air Pollutants (HAPS) and Toxic Air Contaminants (TAC).
- ◆ The blow molding process has eliminated the use of fluorine gas.
- Older underground storage tanks have been upgraded to new double-walled steel to minimize any potential releases.

Vital Statistics:

Clean Corporate Citizen since February 11, 2002

Operation:
Automotive Plastic
Components and
Assemblies

Address:

800 County Street Milan, Michigan 48160

Washtenaw County



Visteon Corporation – Milan Plant, continued:
Milan continues to explore waste minimization/prevention of pollution activities such as:
◆ Increasing the on-site reuse and off-site reprocessing of offal plastic.
Recycling of scrap wood, copper, aluminum, and steel.
 Upgrading of the utility systems for optimization of natural gas and electricity usage.



Appendix

EMS Close-Up

What is an Environmental Management System (EMS)?

An EMS is a voluntary system for identifying, controlling, and monitoring the regulated and nonregulated activities at a facility that could impact the environment. The EMS concept was developed by industry as a proactive way to:

- ✓ Improve environmental performance beyond that required by regulation;
- ✔ Create a more level "playing field" in environmental control in the world market;
- ✓ Provide a competitive advantage; and
- ✓ Give credibility to environmental programs.

What does an EMS look like?

There is not one single type of EMS but there are standards or formats to follow in developing a system. The most well-known and widely used EMS standard in the United States and the world is the International Organization for Standardization (ISO) standard, ISO 14001. The C3 rules on EMS content were based on ISO 14001. Some of the elements of an EMS are:

- **✓** Operational control through work instructions and procedures;
- ✓ Employee environmental training;
- ✓ Emergency response planning; and
- ✓ Environmental recordkeeping and reporting.

Most likely, a facility already has programs and documents that satisfy most of the common elements. The facility might only need to formalize its procedures and documents so the programs can be managed in a logical and accessible manner.

What are the benefits of an EMS?

A facility can reap numerous business benefits from EMS development in addition to those provided by C3 designation. These benefits include:

- Reduced costs Facilities that have implemented an EMS report improved operating efficiency through the focus on important issues, the development of standard procedures, and increased employee training.
- Competitive advantage Consumers and manufacturers are giving preference to products from environmentally responsible suppliers.
- Improved image The local community, environmental regulators, and environmental groups see EMS development as an indication of a facility's willingness to be a responsible citizen and to go beyond compliance. They will be willing to recognize and reward those efforts.
- Enhanced regulatory compliance The adoption of procedures and work instructions and the additional training will add consistency and stability to the environmental programs and reduce a facility's potential for liability.
- Improved environmental performance The systematic identification of potential environmental impacts—and the on-going setting and achievement of goals to control those impacts—will ultimately lead to improved performance and a cleaner environment.

For further information on how to develop an Environmental Management System specific to your facility, the Environmental Science and Services Division has an *Environmental Management System Guidance Manual* available. The manual is designed in workbook format to take you step-by-step through the process of developing an EMS. Medium and large establishments can use it as a resource to learn more about the necessary elements of an EMS and its value. Contact the Environmental Assistance Center at 800-662-9278 to order a copy.



